Writing out the determinant we get $(3\sqrt{2}\tan 70^\circ-2)y=(\sqrt{6}\tan 70^\circ+2)z$.

$\therefore\ \theta=\angle HZN=\tan^{-1}\left\{\dfrac{3\sqrt{2}\tan 70^\circ-2}{\sqrt{6}\tan 70^\circ+2}\right\}=47^\circ\,53'\,6.''6$.

$\therefore$ N. $47^\circ\,53'\,6.''$ E. is the direction of the wind.

Also solved by *A. H. BELL*, and the *PROPOSER*.

PROBLEMS.

16. Yale Senior Prize Problem.---Contributed by H. A. NEWTON, LL. D., Professor of Mathematics, Yale College, New Haven, Connecticut.

The axes of two right cylinders whose bases are circles of 4 and 6 inches radius respectively, intersect at right angles; compute to four decimal places the lengths of the curves of intersection of the two surfaces.

Proposed by SAMUEL HART WRIGHT, M. D., M A., Ph. D., Penn Yan, Yates county, New York.

A bright star passed my meridian at 7 P. M. The Chronometer soon after ran down and stopped, but I set it again when the same star had a true altitude of $30^\circ=\alpha$. What time was it then, my latitude being $42^\circ 30'$N.$=\lambda$, and the star's Declination 60°N.$=\delta$?

Solutions to these problems should be received on or before November 1st.

QUERIES AND INFORMATION.

Conducted by J. M. COLAW, Monterey, Va. All contributions to this department should be sent to him.

6. A reply to Professor WHITAKER'S Comment, by H. W. DRAUGHON.

Professor Whitaker's explanation of the difficulty in L. B's solution seems to me illogical. L. B's answer is correct, and does prove if properly substituted.

Professor Whitaker does not discriminate between the sign indicating operation, placed before an expression, and the sign of the *value* of that expression found by solution. For instance, let us take the equation under discussion, $x-4=+\sqrt{x-4}+4\ldots.(1)$.

Squaring, we readily find, $\sqrt{x-4}=-1$. The $+$ sign before $\sqrt{x-4}$ in (1), merely indicates that the value of $\sqrt{x-4}$, be it positive or negative, is to be added to 4. If Professor Whitaker insists that $\sqrt{x-4}$ cannot have a negative value, he must deny that x can have a negative value in the following equation: $x^2+2x=3\ldots.(2)$. To illustrate, let the value of x^2 be required; we readily find $x^2=9$ and $x^2=1$.

From the first result, we obtain $x=3$, which does not satisfy (2), but